

**Testimony of Mr. Shawn Heflick, Herpetologist
before the House Subcommittee on Insular Affairs, Oceans and Wildlife
and the House Subcommittee on National Parks, Forests and Public Lands
March 23, 2010**

Mr. Chairman, Madam Chairwoman, members of the Subcommittees, I want to thank you for the opportunity to be before you and present testimony at this oversight hearing on "How to Constrict Snakes and Other Invasive Species". As a herpetologist and a resident of the State of Florida, I welcome having this conversation on such an important issue.

My name is Shawn Heflick and I am here as a concerned conservation biologist, a Florida constituent of USARK and past president and current scientific advisor for the Central Florida Herpetological Society.

My interest in this hearing and subject matters is multifaceted. I completed my Master Degree on invasive species in Florida, have traveled the world capturing and studying pythons on 5 continents, am the president of a conservation NGO out of the Amazon Basin, a former AZA curator, a licensed Python Agent for both the Everglades National Park and Florida Fish and Wildlife Conservation Commission (FWC). Having such an eclectic background has allowed me to have an intimate knowledgeable about the natural history, husbandry, breeding and behavior of these reptiles.

I'd like to first address the origin of this population in south Florida, as it has been used by some special interest groups and politicians as a weapon to strike at a \$3 billion dollar a year industry. Two main theories have emerged over the last several years with one being that irresponsible or uneducated pet owners, who could no longer take care of their pets, released these animals haphazardly into the wild around south Florida. As the theory goes, these pets then survived and found one another during breeding season thus establishing a wild population in south Florida. The second theory is that Hurricane Andrew in 1992 came through and devastated south Florida releasing tens of thousands of exotics into the wild (FWC estimates 25,000), which included Burmese Pythons.

What does the data tell us? It tells us that this wild population of pythons is not genetically diverse and may be from a very small founding population. It also tells us that the genetic origin of these wild pythons are not from the same geographic area as what exists in the pet trade today, but that they are from the same geographic area as those present in south Florida facilities demolished by Hurricane Andrew. Additionally, it shows that the epicenter of the python population is within several miles of one of these reptile facilities that contained almost a thousand young Burmese Pythons during Hurricane Andrew. This facility was totally demolished by the Hurricane, which released all of the pythons into the southern Everglades area. We also know that no genetic mutations or

color morphs, which represents the vast majority of pets currently kept, have been captured in the wild population. These designer morphs would include albino, albino green, granite and labyrinth; none of which have ever been found in the wild python population. From discussions with law enforcement agencies, including FWC, Miami-Dade and the Department of the Interior, there has never been one recorded incident, arrest or citation of a pet owner releasing a Burmese Python into the wild. Clearly this does not mean it hasn't occurred, but what it may tell us is that the event is extremely rare, done by an insignificant few irresponsible pet owners and is extremely unlikely to have caused the population in south Florida given the fact that exotic species typically have to be injected into the new ecosystem in large numbers all at once or in small numbers over many events.

I'd like to also address the issue of public safety. There has not been one recorded incident of a human being attacked by one of these wild pythons. Comments suggesting that they are going to kill tourists are not only based on ignorance of the facts, but are also irresponsible and inflammatory. As a biologist, an Authorized Python Agent for the Dept of the Interior and FWC I can tell you first hand that these animals are not aggressive, but are also not even prone to strike unless defending themselves or cornered by their attacker. The idea of these wild pythons attacking people is simply contrived to fit a political agenda.

One of the problems with this issue is that many people do not realize, or choose not to realize, that the wild population of Burmese Pythons is a distinctly separate entity from those in captivity. The wild population has been in south Florida for almost 2 decades and though it has been growing, it has not reached the sensational numbers that have echoed through these halls here in Washington or from the televisions across the nation. Wild numbers of 100,000 or 200,000 are erroneous at best and at worst, political talking points used to fear monger for votes and publicity. On the ground, educated estimates among my colleagues are certainly in the low thousands, but are far less than the 100,000+ so commonly tossed around. Many of my colleagues place the number between five and ten thousand animals. We spend countless hours and sometimes days, searching for these animals and typically average 0 to 1 python per search. Contrary to popular opinion, these pythons do have predators in the Everglades to keep them in check. Alligators, Indigo Snakes, Kingsnakes, Herons, Storks, Hawks, Eagles, Gar, Large Mouth Bass, Soft-shell Turtles, Snapping Turtles, Raccoons, Opossum, and Feral Pigs just to name a few of the potential predators a Burmese Python can face from the time it hatches to maturity. Standard attrition rates in the wild are approximately 95% for animals of this nature, which would leave less than 2 hatchlings surviving to maturity from any one clutch of python eggs. This is far less than the standard media numbers, which would leave one to believe that the population is growing exponentially like bacteria in a culture dish...this is not the case.

Much of the political base for legislation is anchored on The USGS Report on the affects of climate change on the population spread of the Burmese python, and thus I am inclined to speak to its science. The earnest with which this report was received and accepted is a little frightening from a science stand point. This report seemed to bypass the very thing that makes our scientific process so valuable...a comprehensive, objective, and outside peer review. Speculative Climate Change Models were used in this report and were coupled with data from the Indian Python, which taxonomically is a different subspecies, and ecologically is an entirely different animal. With regard to ecosystem requirements and temperature regimes these two pythons are very different animals, with the Indian Python having the ability to inhabit drier, cooler and higher elevation habitats while the Burmese Python is a tropical rainforest or low elevation species. The authors of the Report must surely know this information and the fact that the USFWS recognizes them as separate subspecies as well (Recently a study has indicated that they should be totally different species). To fully appreciate the disparity between these snakes, and the degree to which the mistake of using the Indian Python data affects the validity of the study, see the peer reviewed scientific paper "Claims of Potential Expansion throughout the U.S. by Invasive Python Species Are Contradicted by Ecological Niche Models" (Pyron et. al).

Survival rates outside of predation are another key factor in considering population growth and survivability in northern Florida or beyond. The key variable is the cold, which interestingly the USGS Report summarily passes off as insignificant **even though temperature is known to be a key range limiting factor in populations**. This alone should bring serious question to the validity of the USGS Report. This winter elucidates the point. Since the cold in January, large numbers of pythons have been discovered either dead or dying as the direct result. Present estimates, from the wild population data collected, indicate that at a minimum 70-80% of the population may have succumbed to the cold weather in south Florida (pers. comm. Shawn Heflick, Greg Graziani, Michael Cole, Anthony Flanagan). Captive cold studies indicate that the death rate due to the cold may be closer to 80 to 90% or higher. With the cold data coming in it is becoming clearer that the hypothesis long held by python experts is being supported; this population of pythons cannot expand outside of south Florida and thus this is a Florida problem...not a federal one. In this light, it is appropriate to speak to Florida's programs. Currently, Florida has a set of progressive and stringent regulations effectively dealing with these issues, and is currently formulating additional regulations to address the changing needs of the issue. These regulations have already reduced the trade in these large constrictors by 95+%, leaving the majority of remaining specimens in the hands of qualified, permitted professionals and a 24/7 Amnesty Program which gives those still holding animals an avenue to turn them in responsibly.

Any discussion about these species should be coupled with a legitimate scientific study and assessment of their ability to establish and become invasive.

If these species were assessed individually in a valid assessment many of them listed are so uncommon, or simply do not exist, in the pet trade that the lack of their presence in the US negates their ability to become a problem. Species like the Bolivian Anaconda (*Eunectes beniensis*) and De Schauensee's Anaconda (*Eunectes deschauenseei*) are not represented in the United States, and the Indian Python is currently listed as an Endangered Species and thus sales are already prohibited across state lines. I was recently asked to sit on a panel for invasive species at an academic conference for partners in reptile conservation, where I asked university biologists, state biologists, state fish and game enforcement, AZA zoo employees, reptile industry experts and Dept of the Interior biologists if anyone thought Boa constrictors were an invasive species and possibly a problem for the US. Not one of these experts raised their hand...not one of these individuals who work day in and day out with these issues believe boas to be a problem, and yet they are still on the list of species to ban based solely on a deeply flawed report.

The banning of these species would result in a loss of regulatory ability and cooperation with the keepers and industry. Overnight, it would make valuable snakes not only worthless, but a financial burden due to the lack of marketable value. It will destroy family businesses and drive thousands of families into bankruptcy. Keepers and breeders would be forced to hold the now monetarily worthless snakes in their facilities to what end? Alarmingly, millions of now legal snakes could be released by their owners in retaliation to a ban out of frustration and a sense of betrayal by the government. For those that do not release their animals some would create a black market enterprise and previously regulated, traceable snakes would be unregulated and forced underground with absolutely no enforceable recourse. Is this what we want...to exacerbate the problem, or to solve it?

In closing I would like to appeal to this committee and the nation NOT to take stalk in the agenda driven references to hundreds of thousands of python devouring the Everglades or the idea of a Super Python Hybrid designed to eat suburbia, but instead look at the peer reviewed science and numbers that tell a story of an invasive species most probably released from hurricane destruction that cannot march north due to the cold and that ultimately is a south Florida problem already being addressed, regulated and controlled.

Again thank you for the opportunity to appear before this joint hearing of the Subcommittees. I would be happy to answer any questions.